ABSTRACT

A tire with radial carcass reinforcement having beads with a heel portion on an axially inner side and a toe portion on an axially outer side includes two carcass reinforcement plies for tension in higher sidewall tires. The bead includes at least one bead wire coated with a rubber mix, a wedge formed of a rubber mix disposed axially outward of the at least one bead wire, and at least one rubber filler located axially and radially outward of the bead wire and wedge. The wedge is defined by two sides extending at an acute angle axially from an apex A located beneath the section of the at least one bead wire, the rubber mix forming the wedge having a Shore A hardness of at least 65 and greater than the Shore A hardness of the at least one rubber filler. According to one embodiment, a carcass reinforcement includes two plies, a first radial reinforcement ply wound on the at least one bead wire to form a first upturn, as viewed in meridian section, the reinforcement ply is wound about said bead wire passing from the heel to the toe of said at least one bead, the first upturn engaging the radially outer side the wedge and, a second radial reinforcement ply wound on said at least one bead wire, wherein, when viewed in meridian section, the second reinforcement ply is disposed in parallel to the first radial reinforcement ply in a sidewall area of the tire and is wound about said bead wire passing from the heel to the toe of said at least one bead with a second upturn extending into engagement with the radial inner side of the wedge.